

## CLAIMS

1. An optimized system for the regulation and discontinuous measurement of the oxygen content or the content of any other gas in platforms for composting or processing waste, especially in the form of swaths, the system being comprised of at least one remote bay (4) itself containing one or more gas measurement probes (5) and, in particular, at least one oxygen or CO<sub>2</sub> measurement probes; a gas intake pump (6); electric valves (8) operated by a program controller (9); a pipe (11) connecting each of the electric valves (8) to a gas sampling device, the electric valves (8) coupled to the pump (6) allowing the air and the gases contained in this air at each sampling device (10) to be drawn in successively and sent to the measurement probe(s) (5), characterized by the fact that the sampling device is a rod (10) with two opposite ends able to be driven into the pile(s) of waste or compost; each one of the sampling rods (10) corresponding to one single pipe and carrying an air intake strainer (15) at one end, the pipe being connected at the other end of the rod and by the fact that the oxygen measurement probe (5) must be able to supply within a very short response time the measurement of the oxygen content of several swaths and that consequently this probe should be of the heated zirconium oxide sensor type with a very short response time, on the order of a few seconds and less than ten seconds.

2. A system as in claim 1, characterized by the fact that the electric valves (8) are separate from the program controller (9) or are integrated directly into the program controller (9).

3. A system as in one of the claims in 1 or 2, characterized by the fact that the attachment of the rod to the pipe uses a packing gland or a coupling facilitating the fastening or insertion of the pipe.

4. A system as in one of the claims in 1 to 3, characterized by the fact that a single gas measurement probe (5), in particular oxygen or CO<sub>2</sub>, can be used to measure, respectively, the oxygen or CO<sub>2</sub> content of several swaths by means of samples obtained from the various gas sampling rods (10).

5. A system as in one of the claims in 1 to 4, characterized by the fact that the program controller (9) has temperature probes and one or more input/output ports enabling it to receive PT 100 or PT 1000 - type signals for temperature measurement or other signals for measuring other gases present.

5        6. A system as in one of the claims in 1 to 5, characterized by the fact that the rod (10) for sampling air in the waste, and used for measuring the concentration of oxygen, CO<sub>2</sub>, or any other gas, does not contain a sensor or a transmitter built into the body of the rod, but only a strainer (15) and an air-supply pipe (11).

10       7. A system as in one of the claims in 1 to 6, characterized by the fact that the gas intake pump (6) can be equipped with a device (7) for regulating the flow of air to the probe(s), of the rotameter type.

15       8. A system as in one of the claims in 1 to 7, characterized by the fact that the air-sampling rod (10) contains, at one of its ends, an air strainer (15) and, at the other end, a packing gland or a coupling enabling insertion of the pipe (11) for sampling the air in the compost or waste.